

In re Patent Application of:
ROY ET AL.
Serial No. 10/777,577
Filed: FEBRUARY 12, 2004

In the Claims:

This listing of claims replaces all prior versions and listing of claims in the application.

1. (Currently amended) A communications system comprising:

a plurality of electronic mail (email) data storage devices each using at least one of a plurality of different operating protocols;

a plurality of mobile wireless communications devices for accessing said email data storage devices and each using at least one of the plurality of different operating protocols; and
a protocol interface device comprising

a front-end proxy module for communicating with said plurality of mobile wireless communications devices using respective operating protocols, and
a protocol engine module for communicating with said plurality of email data storage devices using respective operating protocols,

said front-end proxy module and said protocol engine module communicating using a common interface protocol able to represent a desired number of protocol-supported elements for a desired operating protocol and cooperating to aggregate email messages from said email data storage devices to respective mobile wireless communications devices.

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2. (Cancelled).

3. (Original) The communications system of Claim 1 wherein the common interface protocol is able to represent all protocol-supported elements for a most capable operating protocol.

4. (Original) The communications system of Claim 3 wherein the most capable protocol comprises Outlook Web Access (OWA).

5. (Original) The communications system of Claim 1 wherein the common interface protocol is based upon a Web-based distributed authoring and versioning (WebDAV) protocol.

6. (Original) The communications system of Claim 1 wherein said mobile wireless communications devices send access requests; and wherein said data storage devices send data responsive to access requests.

7. (Original) The communications system of Claim 6 wherein the access requests comprise at least one authentication request.

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8. (Original) The communications system of Claim 7 wherein the at least one authentication request comprises a user identifier and a user password.

9. (Original) The communications system of Claim 7 wherein at least one of said data storage devices is for electronic mail (e-mail) messages; and wherein said at least one storage device responds to the at least one authentication request with a root folder and target e-mailbox capabilities.

10. (Original) The communications system of Claim 1 wherein said protocol interface device generates an error responsive to at least one non-supported operating protocol.

11. (Original) The communications system of Claim 1 further comprising a wide area network (WAN) connecting at least one of said mobile wireless communications devices with said protocol interface device.

12. (Original) The communications system of Claim 1 further comprising a wide area network (WAN) connecting at least one of said data storage devices with said protocol interface device.

13. (Currently amended) A protocol interface device for interfacing a plurality of mobile wireless communications

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devices with a plurality of electronic mail (email) data storage devices, the mobile wireless communications devices and email data storage devices each using at least one of a plurality of different operating protocols, the protocol interface device comprising:

 a front-end proxy module for communicating with the plurality of mobile wireless communications devices using respective operating protocols; and

 a protocol engine module for communicating with the plurality of email data storage devices using respective operating protocols;

 said front-end proxy module and said protocol engine module communicating using a common interface protocol able to represent a desired number of protocol-supported elements for a desired operating protocol and cooperating to aggregate email messages from the email data storage devices to respective mobile wireless communications devices.

14. (Cancelled).

15. (Original) The protocol interface device of Claim 13 wherein the common interface protocol is able to represent all protocol-supported elements for a most capable operating protocol.

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16. (Original) The protocol interface device of Claim 13 wherein the common interface protocol is based upon a Web-based distributed authoring and versioning (WebDAV) protocol.

17. (Currently amended) A protocol interface device for interfacing a plurality of communications devices with a plurality of electronic mail (email) data storage devices, the communications devices and email data storage devices each using at least one of a plurality of different operating protocols, the protocol interface device comprising:

a front-end proxy module for communicating with the plurality of communications devices using respective operating protocols; and

a protocol engine module for communicating with the plurality of email data storage devices using respective operating protocols;

said front-end proxy module and said protocol engine module communicating using a common interface protocol able to represent a desired number of protocol-supported elements for a desired operating protocol and cooperating to aggregate email messages from the email data storage devices to respective mobile wireless communications devices.

18. (Cancelled).

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19. (Original) The protocol interface device of Claim 17 wherein the common interface protocol is able to represent all protocol-supported elements for a most capable operating protocol.

20. (Original) The protocol interface device of Claim 17 wherein the common interface protocol is based upon a Web-based distributed authoring and versioning (WebDAV) protocol.

21. (Currently amended) A method for interfacing a plurality of mobile wireless communications devices with a plurality of electronic mail (email) data storage devices, the mobile wireless communications devices and email data storage devices each using at least one of a plurality of different operating protocols, the method comprising:

providing a front-end proxy module for communicating with the plurality of mobile wireless communications devices using respective operating protocols;

providing a protocol engine module for communicating with the plurality of email data storage devices using respective operating protocols; and

causing the front-end proxy module and the protocol engine module to communicate using a common interface protocol able to represent a desired number of protocol-supported elements for a desired operating protocol and to cooperate to aggregate

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email messages from the email data storage devices to respective mobile wireless communications devices.

22. (Cancelled).

23. (Original) The method of Claim 21 wherein the common interface protocol is able to represent all protocol-supported elements for a most capable operating protocol.

24. (Original) The method of Claim 21 wherein the common interface protocol is based upon a Web-based distributed authoring and versioning (WebDAV) protocol.

25. (Currently amended) A computer-readable medium having computer-executable modules for interfacing a plurality of mobile wireless communications devices with a plurality of electronic mail (email) data storage devices, the mobile wireless communications devices and email data storage devices each using at least one of a plurality of different operating protocols, the computer-readable medium comprising:

a front-end proxy module for communicating with the plurality of mobile wireless communications devices using respective operating protocols; and

a protocol engine module for communicating with the plurality of email data storage devices using respective operating protocols, the front-end proxy module and the protocol

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engine module communicating using a common interface protocol able to represent a desired number of protocol-supported elements for a desired operating protocol and cooperating to aggregate email messages from the email data storage devices to respective mobile wireless communications devices.

26. (Cancelled).

27. (Original) The computer-readable medium of Claim 25 wherein the common interface protocol is able to represent all protocol-supported elements for a most capable operating protocol.

28. (Original) The computer-readable medium of Claim 25 wherein the common interface protocol is based upon a Web-based distributed authoring and versioning (WebDAV) protocol.